

REMARKS

This amendment, responsive to the Office Action of August 6, 1997, affirms the oral election made on July 7, 1997, to prosecute the invention of Group I (claims 1-42, 52, and 57-62); reserves the right to prosecute nonelected inventions in Groups II-IV; cancels claims 57-62 without prejudice; and amends claims 1-42 for two primary reasons. First, claims 1-42 were amended to recast the processing means or processing steps as an interface application program or program means with certain features. And secondly, the claims were amended to strike step terminology from the method claims and thereby place them further outside the scope of 35 U.S.C. 112 paragraph 6.

The amendment also adds new claims 63-97. New claims 63-70 incorporate the subject matter identified as allowable in the Office Action, namely claims 10-11, 17-18, 32-33, and 39-40. Thus, they are believed to be ready for allowance. New claims 71-97 further define the claimed invention.

Patentability of New Claims 71-78

Applicants believe it will be helpful to address new claims 71-78 and their relation to the Seybold Report, the Examiner's principal reference, before addressing amended claims 1-42 and 52 and new claims 79-97.

Claims 71-74 recite "a universal speech-recognition interface that enables operative coupling of a speech-recognition engine to at least any one of a plurality of different computer-related applications." Underscoring this universality, the claims also recite "output means for outputting the recognised words into at least any one of the plurality of different computer applications to allow processing of the recognised words."

The specification, at page 26, lines 9-19, states that the plurality of different applications may, for example, include Microsoft Powerpoint presentation application and Excel spreadsheet application. Thus, the universal character of the claimed speech-recognition interface allows use of a speech-recognition engine with a variety of different applications, not just one specific application.

In contrast, the Seybold Report states that each Digital Dictate system interfaces with only one particular application. Specifically, the Seybold Report states:

Digital Dictate is packaged in versions tailored to specific applications, including

Microsoft Word, WordPerfect, AmiProg and other popular e-mail programs. We tried Digital Dictate for Word, the first flavor of Digital Dictate to be released. (Seybold, third para.)

In other words, Microsoft-Word-version of Digital Dictate interfaces only with Microsoft Word, the WordPerfect-version interfaces only with WordPerfect, and so forth. Thus, for example, users seeking to use speech input for Microsoft Word and for WordPerfect would need two different Digital Dictate systems, one that interfaces with Microsoft Word and another that interfaces with WordPerfect. On the other hand, the claimed universal speech-recognition, which recites "output means for outputting the recognised words into at least any one of the plurality of different computer applications to allow processing of the recognised words as input text" is application independent, and would work with either application. Moreover, there is no suggestion in the Seybold Report nor any other reference of record to modify the Digital Dictate system to include a universal interface. Thus, claims 71-74, each of which requires a universal speech-recognition interface, distinguish patentably from the prior art.

Claims 75-78 also patentable distinguish from the Seybold Report. In particular, these claims specify a speech-recognition interface that comprises not only "input means for receiving speech-recognition data including recognised words" and "output means for outputting the recognised words into a computer-related application," but also "means, independent of the computer-related application, for determining positions of the recognised words in the computer-related application."

However, in contrast to the claimed invention, the "Microsoft Word version" of Digital Dictate reviewed in the Seybold Report itself fails to include any feature that determines positions of the recognised words. Instead of including these features within its system, Digital Dictate depends on the bookmarking feature inherent to Microsoft Word, the application program targeted to receive speech input.

Applicants tested a version of the Digital Dictate (DD) software dated July 11, 1995, or one-month after publication of the Seybold Report. (The version discussed in the Seybold Report was presumably released early to the press to stimulate early product demand.) Through the limited testing, applicants discovered that the DD software interface invokes the Microsoft Word bookmark feature, apparently to determine positions of recognised words. More precisely,

after placing a recognised word within the Microsoft Word edit window, the DD interface automatically highlights the recognised word and then invokes the Microsoft Word bookmarking feature. The separate bookmarking feature of Microsoft Word, not the DD software, would then bookmark the highlighted word, recording its position (within a bookmark register) within the document. An attached report on these apparent functions of the DD software interface includes 18 screen prints illustrating the tested DD software's release date and its dependence on the Microsoft Word bookmaking feature. This reliance on the bookmaking feature shows that the DD software itself doesn't determine the positions of recognised words, independent of the computer application, as claims 75-78 require.

Moreover, there's no suggestion in the Seybold Report or any other reference of record that capabilities inherent to a word processing application, such as booking marking, should be duplicated in a speech-recognition interface device. Hence, one of ordinary skill would not view the Seybold Report as suggesting a speech-recognition interface having features whose functions duplicate or emulate those of a processing application targeted to receive speech-recognition data.

On the contrary, one of ordinary skill would avoid the inclusion of apparently redundant features to save development cost, reduce complexity, etc. Indeed, this is exactly what the developers of Digital Dictate appear to have done, in developing and marketing their software as an add-on product to IBM's VoiceType Dictation. (See Seybold, page 1, first and second para.)

Furthermore, the advantages of including the claimed means, independent of the computer-related application, for determining position within a speech-recognition interface were not only far from obvious when the present application was filed, but in fact still appear to be. A November 1997 article in Technology Insider (a copy of which is attached) reports that an updated IBM speech-recognition system still depends on the Microsoft Word bookmaking feature, apparently in lieu of providing a speech-recognition interface with seemingly redundant functions.

The 1997 article also reports that this reliance on the Microsoft Word bookmarking (or cross-referencing) facilities prevents effective usage of the bookmarking feature for anything else but a speech-recognition application. Moreover, according to the article, IBM was not only aware of the problem, admits that "there was no quick fix," and advises users of its software "to

carry out dictation through a special SpeechPad facility,” outside of Microsoft Word.
(Technology Insider, column 2)

Accordingly, claims 75-78 are patentable.

Claim 77, which stems from claim 75, further distinguishes from the prior art. In particular, claim 77 requires “means, independent of the one computer application, for updating the position identifiers in response to changes in positions of the recognised words within the one computer application.” In the rejection of other claims, such as claim 1, as being obvious over the Seybold Report, the Examiner conceded that the Seybold Report discloses all the claimed features, except for the claimed features relating to updating link data after editing the text. To address this gap between the art and the claimed invention, the Examiner reasons it would have been obvious to update the linking data because losing the link “after doing any needed text editing” would make correction process unduly cumbersome.

However, there is no suggestion in the art of record that updating linking data after doing needed text editing will make correction less cumbersome or less time consuming, as the Examiner himself suggests. The Examiner points to the Seybold Report’s remark that correction “is the most time consuming part of typing and dictating” as a suggestion to update linking data, but this desire alone does not bridge the gap between Seybold and the claimed invention. Indeed, if it were judged sufficient to reach the claimed updating feature, it would just as well render obvious telepathic dictation, which if possible would save much time. More is required than a bare desire to save time to reach the claimed updating feature, which itself requires time to execute.

Moreover, the Seybold Report teaches away from the concept of updating linking data through its long-term retention of not only the original speech recordings but also the uncorrected text file. The Report explains that “by allowing the retention of the speech recordings for later comparison to the recognized text[, Digital Dictate] has provided a deferred correction mode for the IBM engine that does not lose its ability to ‘train’ the system when corrections are done in a later session, and that does not corrupt the user profiles as the **uncorrected file** is saved for later processing.” (Seybold, page 2, first para. (Emphasis added.))

In short, there is nothing in the Seybold Report that would point one of ordinary skill, even if motivated to save time, in the direction of updating linking data. And, in fact, some

portions of Seybold would appear to lead one down other paths, away from updating linking data.

The Amended Claims 1-42, 52, and New Claims 80-87

In the Action, the Examiner rejects 1-9, 12-16, 19-31, 34-38, 41, 42, and 52 as obvious over a Seybold Report on Digital Dictate (DD) software. However, the rejection appears moot in view of the present amendment, which in general terms recast the processing means as interface means comprising specific function outside the DD software. As amended, these claims as well as claims 80-87 overlap the patentable subject matter highlighted above.

In particular, **claims 1-12, 80, and 82; claims 13-22, 42, 81, and 83; and claims 23-41, 84-87** require an interface application program means (or an interface application program) which itself comprises means for determining the positions of recognised words in a processing application; means for monitoring changes in the positions of the recognised words; means for forming link data linking the audio data to the recognised words; and means for updating said link data in response to monitored changes in positions of the recognised words. The presence of these features in the interface between the speech-recognition engine and a processing application program, such as a wordprocessor, enables the claimed invention to provide these functions independent of wordprocessor capabilities, and thus extends speech-recognition capabilities to an unlimited number of application program requiring user input.

As noted above, the DD software described in the Seybold Report fails to provide these features, relying instead on features within Microsoft Word, its bookmarking features specifically. This is evidenced clearly within the attached Test Report of the Digital Dictate software, which shows the DD software invoking or calling the Microsoft Word. Further, the attached Technology Insider article demonstrates not only some of the problems this kind of arrangement causes but also the non-obviousness of applicant's claimed solution --- including similar features within the program interface means. Thus, claims 1-12 and 80-87 are patentable.

Patentability of New Claims 88-97

Claims 88-97 are also patentable. Each of these claims recites one more features which intersect the patentable subject matter identified above. Specifically, claims **88-91** recite a data processing apparatus or method employing an interface application program that forms data linking the audio data to the recognised words, with the linking data including audio identifiers

and information identifying the corresponding recognised words. Similarly, claims 92 and 93 address a computer usable medium having computer readable instructions for implementing an interface application that forms link data comprising audio identifiers and information identifying the corresponding recognised words. As demonstrated above, the inclusion of such functions within the interface application is novel and non-obvious.

Claims 94-97 recite a data processing apparatus or method which implements "a first application program which receives the input recognised words in text positions," and "a second application program which determines the positions of and monitors changes in the positions of the recognised words." Thus, these claims require an application separate from the application that receives the recognised words to perform the determining and monitoring functions. This is somewhat similar to the functional separation or independence highlighted above. Thus, these claims would be similarly patentable.

Conclusion

In view of this amendment and the highlighted shortcomings of the prior art, applicants request reconsideration and allowance of the application. If necessary for entry and consideration of this amendment and response and/or the annexes to the amendment, please charge any required fees to Deposit Account No. 19-0743. In the event there are remaining concerns or questions, applicants invite the Examiner to contact the undersigned attorney, Eduardo Drake, at 612-349-9593.

Respectfully submitted,

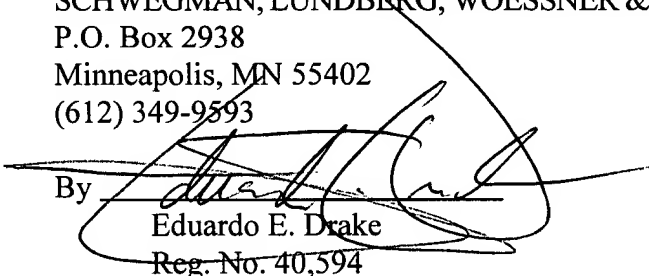
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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Assistant Commissioner for Patents, Washington, D.C. 20231 on February 6, 1998.

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